JOURNAL

OF THE

Philadelphia College of Pharmacy.

VOL. I. SEPTEMBER, 1827. NO. III.

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PHILADELPHIA:

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On the Cerated Glass of Antimony. By Daniel B. Smith.—*Read September* 26, 1826.

My attention having been recently directed to this preparation in consequence of receiving an order for several ounces, I have thought the following remarks worth communicating to the College.

The formula of the Edinburgh and American Pharmacopœias is as follows:

Take of Yellow wax, one part.
Glass of antimony, eight parts.

Melt the wax in an iron vessel and throw into it the powdered glass; roast the mixture over a gentle fire for a quarter of an hour, continually stirring; then pour it out, and when cold, grind it into powder.

Dr. Duncan adds, in which he has followed Dr. Lewis, and has been followed by Dr. Coxe: "The glass melts in the wax with a very gentle heat; after it has been about twenty minutes on the fire, it begins to change its colour, and in ten more comes near to that of Scottish snuff, which is a mark of its being sufficiently prepared; the mixture loses about one-ninth of its weight in the process."

I do not know what is Dr. Lewis's authority for the

above statement; but it is plain that he has made or repeated a careless assertion, which a single trial would have enabled him to correct. The glass of antimony does not melt but at a heat far greater than that at which wax is decomposed. The directions of the Colleges are insufficient and inaccurate. The glass should be previously very carefully reduced to an impalpable powder. "Roasting over a gentle fire for a quarter of an hour," is not a clear nor sufficient instruction. The mixture must be kept at nearly as great a heat as the wax will bear without inflaming, and continually stirred, till it ceases to smoke, when it will be reduced to a black carbonaceous mass, which is the true cerated glass of antimony. The wax imparts sufficient tenacity to render the mass difficult of pulverization, until it is nearly reduced to a coal; so that the directions of the College for the preparation, and Dr. Duncan's rule for judging when it is finished, have not been the result of accurate experiment. The French Pharmacopœias are minutely correct in their description of this preparation, which renders it the more remarkable that so great an error should have crept into a work of such authority as Dr. Duncan's Dispensatory.

I have been shown in some of our most respectable shops, when I have inquired for this article, a light ash coloured impalpable powder, which has frequently, perhaps generally, been used in prescriptions where that preparation has been ordered. On examining the bottles in which it was imported, I found it to be labelled, "Prepared glass of antimony," and that it was evidently the levigated glass, pre-

paratory to undergoing the torrefaction with wax; and consequently destitute of those qualities for which the cerated glass is esteemed. These hints may serve to put the trade on their guard, in respect to a preparation which, though gone much out of use, ranks high in the opinion of some experienced practitioners.

Extract from the Code Pharmaceutique or Pharmacopœia Gallica. Article 5, p. 319.

ALCOHOLIC TINCTURES.

The strength of the alcohol that we employ, varies according to the nature of the substances to be dissolved. If we propose to extract all the soluble matter which these contain, perhaps each of their principal constituents would require a particular alcohol; but then the number of the formula would be augmented beyond all measure. For this reason we have thought three of the degrees of which alcohol is susceptible, would be sufficient to prepare all the tinctures used in medicine; viz.—12° or 22°, 22 or 32, and 26 or 36, of Baumé; we have not believed it useful to employ that which rises to 30 or 40 degrees. Amongst the medicines for the preparation of tinctures, in which each of these three degrees of alcohol appeared to us the most proper, we have chosen a certain number which will serve for examples to prepare the others.

As to the degree of heat, we have fixed it between 28° and 30° of Reaumur=35—37.5 centigrades, i. e. 95 of Fahrenheit.

Some persons have thought we could procure more

saturated tinctures by adding ammonia or potassa to the alcohol, to augment its power. But experiments have demonstrated, that alcohol of 26 or 36 degrees, mingled with an equal quantity of ammonia, does not dissolve more of the resin of guaiacum than when it is employed pure, and the relation of the simple solution to the other, is that of 3 to 6.7 in this case, and absolutely the same when we cause it to act on the root of valerian.

The ordinary potassa, or the sub-carbonate of potassa, increases still less the dissolving power. In truth, the alcohol cannot dissolve but a very small quantity of it, exceeding with difficulty 1-154, and it dissolves then much less of amber than before; that is to say, that the proportion of this bitumen is of 1-52.3, in pure alcohol, and 1-76.5 only in the other.

In relation to the pure potassa, which is infinitely more soluble in alcohol, since this liquor can take up more than one-fifth of its weight, it has not yet been employed for the preparation of tinctures; but probably there would result from it, a species of soap soluble in alcohol. As the strength of the tincture depends on the quantity of soluble matter which the alcohol contains, we have employed, in the simple formulæ, but general numbers, by which means, in placing them one under the other, it is easy to judge of the proportions at the first glance. But we have employed the avoirdupois weight (poids marchands) for the compound formulæ, from the fear that the respective proportions of many medicines would give room for some error, if they were expressed in a less precise manner.

SIMPLE ALCOHOLIC TINCTURES.

Tinctures prepared with alcohol between 26=36 degrees.

1. *Tincture of Amber.*

Take Amber finely powdered	50
Alcohol (between 26°=36°)	800

Digest for six days in a closed vessel; agitate the liquor from time to time, and afterwards permit it to stand an equal number of days. Decant, and preserve in a glass vessel well stopped. You will have a tincture in which the yellow amber will be to the alcohol as 1 to 52, 33.

2. *Tinctures of Resins and Balsams.*

Although balsams are dissolved with great facility in alcohol, and we can easily establish between these two substances the proportion of 1 to 2, we have nevertheless thought that it would be best that it should be of 1 to 4: because then, the tinctures are more easily incorporated in the potion or draught, and lose nothing of the substance which they hold dissolved. To prevent in a certain manner this latter inconvenience, we ought to commence by triturating the tincture well with syrup—if this enters, as is usual, in the potion; because there are no means more sure to prevent its decomposition when employed in mixture.

As to the weight of these tinctures, it is such that

twenty drops correspond very nearly to 10 grains, or 0.5.

Alcoholic Tincture of Benzoin.

Take Benzoin powdered	200
Alcohol—26=36 degrees	800

Digest for six days, agitating it from time to time; suffer it to stand for some days and then decant the tincture.

In the same manner may be prepared the tincture of balsam of tolu, of resinous juices, of liquid resins, as turpentine, balsam of capaiva, balsam of mecca, &c.; of solid resins, as resin of jalap, resin of guaiac, and of all the other resins and balsams.

Observation.—The operation being terminated, the matter dissolved is to the alcohol in the following proportions.

Tincture of Benzoin as	1	is to 5.14
of Balsam tolu	1	4.18
of Resin of guaiac	1	6.70

TINCTURES PREPARED WITH ALCOHOL 22 OR 32 DEGREES, BAUME.

TINCTURES OF GUMMOUS OR EXTRACTO-RESINOUS JUICES.

Tincture of Aloes.

Take Aloes grossly powdered,	200
Alcohol (22 or 32 degrees)	800

Digest for three days—strain the tincture, and preserve for use.

We may prepare after the same manner, the tinctures of scammony, of gum ammoniac, of assafœtida, euphorbium, and myrrh. *Observation.*—These substances dissolve better in alcohol of 22 or 30 degrees Baumé, than in that of 12 or 22°. We know, indeed, that there is more matter dissolved in the first than in the second.

By experiments made with tinctures prepared according to the manner directed; the proportion of the dissolved matter to the alcohol, was found to be

Tincture of Socotrine Aloes—as	1	4.68
Scammony	1	7
Myrrh	1	17
Assafœtida	1	8.28

TINCTURES OF MEDICINES ENTIRE.

Alcholic Tincture of Cinnamon.

(Laurus Cinnamomum.)

Take Cinnamon powdered	200
Alcohol (22 or 32° of Baumé)	800

Digest the tincture for six days—strain and preserve for use.

In the same mode may be prepared
Tincture of Cascarilla bark,
Roots of black hellebore,
Roots of contrayerva,
Leaves of asarum (asarum Europæum,)
of digitalis,
Cloves,
Saffron, of castor, of musk, and of ambergris.

Note.—Although the residuum of the materials may appear so entirely deprived of all soluble matter, that nothing more can be separated from it, when we submit it a second time to the action of pure alcohol; yet the first alcohol that we employ does not become perfectly saturated, since by pouring it on a fresh portion of the material, it will continue to separate the soluble parts, and thus acquire more energetic properties.

We have thought nevertheless, that the substances from which we wish to obtain the tincture, ought to be to the alcohol in the proportion of 1 to 4. This proportion has appeared to us the best, and that which enables us to procure tinctures the most uniform in their power, of whatever nature, and of whatever species the substance employed to prepare them may be.

By experiments conducted by means of alcohol, the strength of which was 22 or 32° Baumé, the proportion of the material dissolved was found to be to the alcohol

Of Tincture of	Cinnamon, as	1 to 26.55
	Saffron,	1 to 8.74
	Digitalis,	1 to 15.30
	Castor,	1 to 4.90

It may be further remarked, that the tincture of saffron prepared with alcohol of 22°=32° Baumé, has a more constant colour; and the red matters of it do not subside with the same facility spontaneously, as when a more feeble alcohol is employed in the preparation.

(TO BE CONTINUED.)

CANTHARIDES.

The question of the comparative activity of Cantharides, in their perfect state, and when worm-eaten, is discussed by M. Derheims and M. Farines, respectively, in the Journal de Pharmacie, Nos. 10 and 11 of last year.

As the conclusions at which these gentlemen have arrived, differ from the opinion entertained by many, and taught in some standard works, we shall proceed to lay before our readers a summary of their experiments.

Worm-eaten Cantharides, according to M. Derheims, present, to the naked eye, a grayish powder interspersed with shining particles. The dry powder placed in the focus of a compound microscope, shows the fragments of very minute insects, and a number of shining, greenish, and gilded points, the actual remains of the different external organs of the Cantharides.

If moistened and viewed in the same manner, beside the above shining particles, we find a considerable mass of living *apterous* insects, which are described at length by M. Derheims, and which he determines to be a variety of the tick, (Acarus.) The mass of worm-eaten Cantharides is, therefore, composed of the fragments of the fly, of these insects, and probably of matter secreted by the latter. The experiments of M. Derheims were intended to ascertain the relative vesicating properties of these materials. A plaster of worm-eaten Cantharides, and of the fly uninjured by the worms, were applied to the arm side by side.

In the course of twenty hours, the former had pro-

duced a slight redness of the part, while the latter had caused an abundant secretion, and raised a blister.

Again, the shining particles and also the ticks, having been respectively selected with care, from different parcels of the worm-eaten flies, the latter were powdered, and a plaster made from each, and applied as before. After twenty hours, it was found that the plaster made with the fragments of the flies had produced the ordinary vesication, but that from the ticks had in no way affected the epidermis. The conclusion to be drawn from these results is evident.

The worm-eaten mass owes its activity entirely to the fragments of the fly which it contains, and of course will produce but a feeble effect, decreasing in the ratio in which the proportion of these to the whole mass is diminished. The soft interior parts of the fly are well known to be first attacked by the worm. In order to ascertain whether they would afterwards prey upon the envelope, M. Farines exposed perfect cantharides in a bottle to the attack of thirty larvæ of the *anthemus museorum*. These worms immediately introduced themselves into the bodies of the flies, and after five days, finding no more food there, they came out by the same openings by which they had entered; and although M. Farines watched them for an entire week, they did not in that period attack the hard parts of the fly. The larvæ having been withdrawn, the excrement was selected, care having been taken to separate it from the parts not digested. Of this a plaster having been made, no effect was produced by it after remaining twenty-four hours. A similar plaster of the worm-eaten flies formed a small blister after eleven hours.—

The parts of the fly rejected by the worms, having been made into a plaster and applied as before, a small blister was the result after ten hours;—the powder of the sound cantharides produced a large blister after seven hours: the interior of the abdomen, and of the thorax, separated with care from the hard parts, produced a large quantity of serum in six hours; the abdomen alone gave a similar result; the elytræ, (wing cases,) the wings, the anternæ, and the legs, submitted each separately to the same experiment, did not produce any effect, although the application was continued for thirty hours.

From these results, M. Farines draws the following conclusions:—1st. That worm-eaten Cantharides are not so active as the sound; this is proved by the fact, that the mean of the action of the worm-eaten mass, and that of the parts rejected by the worms, which together represent the entire insect, are to that of the sound cantharides as 7 to 10.5, that is to say, that two parts of the sound Cantharides are equal to three parts of the worm-eaten.

2d. That the activity of the insect resides solely in the soft organs, and it is precisely these that are preyed upon by the worm.

3d. That the hard organs have no vesicating property.

4th. That the parts digested by the worms have lost their power. And as the increase of the destructive larvæ is at the expense of the parts on which they feed, these must of course be found in less amount in the active parts of the fly; and whatever activity the worm-eaten mass retains, is owing to the fragments of the

fleshy parts separated by the worms, and which have escaped their voracity. Since the activity of the cantharides resides in the fleshy parts, those parts which have been spared by the worms, being in a great measure deprived of it, must possess much less energy than the sound fly. When a prompt and active effect is required, the *abdomen* of the cantharides should be used.

To preserve cantharides from the attacks of the worm, camphor has been strongly recommended. M. Farines, however, has not been successful in protecting them by the use of this gum, and several of the experiments made by him seem to prove, that, in the climate in which he resides, (Perpignan,) it has no effect upon the worm. He observes that he has succeeded in preserving some descriptions of insects in his collection from the worm, by immersing them in impure pyroligneous acid: and he is of opinion that Cantharides may be secured from their attacks by steeping them for a few minutes in this liquid when first taken, instead of destroying them by the fumes of vinegar.

C. Y.

Philadelphia, July 7th, 1827.

Remarks on the Rhubarb of Commerce.

Extracted from the Edinburgh New Philosophical Journal.

It is well known that the plant which yields the rhubarb of commerce has been hitherto involved in much obscurity, and hence there have arisen many discordant opinions, both among botanists and pharma-

cologists, respecting the species of rheum which affords this valuable medicinal root. They judged it rightly to be a species of rheum, but of what particular species, without authentic materials, it was impossible for them to decide.

Linnæus considered it at first as the produce of his rheum rhabarbarum or undulatum, but he afterwards appears to have altered his opinion in favour of rheum palmatum; while Pallas, who certainly had better opportunities of gaining information on the subject, regarded it as composed chiefly of the roots of rheum undulatum and compactum. Mr. Sievers, an enterprising assistant of Professor Pallas, and well known by his interesting Letters on Siberia, published in the Nordische Beytragee, was sent by the empress Catharine II., purposely to try to obtain the true rhubarb plant from its native country; and although, after travelling for seven years in the countries adjacent to that in which it is found, he was unable to effect the object of his mission, yet he obtained sufficient information to convince him that the plant was then unknown to botanists. But it was reserved for Dr. Wallick, the zealous superintendant of the Calcutta botanic garden, to set this long agitated question to rest, by the transmission of seeds and dried specimens of the true rhubarb plant to Europe. Last spring, Mr. Colebrook received a quantity of the ripe seeds from Dr. Wallick, and presented a portion of them to Mr. Lambert, who has been so fortunate as to raise a number of plants of this valuable vegetable. The seeds were sown in pots, and, by the aid of artificial heat, soon vegetated. The young seedlings were trans-

planted into separate pots filled with rich earth, and the pots were gradually changed as the plants increased in size. By this treatment, as might well be imagined, the young plants grew vigorously, and, at the end of autumn, the leaves were from fifteen inches to a foot in breadth, and the footstalks nine inches long, with half an inch of diameter. The plant, on examination, proved to be identical with my rheum australe, from Gosaingsthan, in the Himalaya Alps. I find Dr. Wallick calls it Rheum Emodi, a name which I should certainly have adopted, had I been aware of it before the publication of my work. The whole plant is thickly beset with numerous, small, bristle shaped, cartilaginous points, which give it a rough feel. The leaves are of a dull green, and the footstalks are red and deeply furrowed. The native samples I have seen, appear to be smaller in all their parts, and the leaves, although flowering specimens, frequently not more than three or four inches broad; the footstalks four inches long, and slender, and the flowering stem not above two feet high. It is curious to observe how well this description accords with what Sievers has given us. The rheum australe appears to be peculiar to the great table lands of central Asia, between the latitudes of 31° and 40°, where it is found to flourish at an elevation of 11.000 feet above the level of the sea, and there is little doubt, therefore, of its proving perfectly hardy in our own country. Large quantities of the roots are annually collected for exportation in the Chinese provinces, within the lofty range of the Himalaya. The best is that which comes by way of Russia, as greater care is taken in the selection; and on its arrival at

Kiachta, within the Russian frontiers, the roots are all carefully examined, and the damaged pieces destroyed. This is the fine rhubarb of the shops, called improperly Turkey rhubarb. We have yet to regret the want of much interesting information respecting the mode of collecting and preparing the roots, and other details interesting in a commercial point of view. The unfortunate fate of Mr. Moorcroft, whose zeal and multifarious knowledge well fitted him for a scientific traveller, has deprived us of much valuable information on this, as well as on many other subjects.

June 3d, 1827.

Acids discovered in Castor Oil.

M. M. Bussy and Lecanu have obtained three new fatty acids from castor oil: one which they call *risinic acid*, is fusible at 72° Fahr.; another termed *elaiodic acid*, is fluid at several degrees below 32°; and the third they have denominated *margaritic acid;* this crystallizes in fine scales, and is not fusible below 264°. These acids are volatile, more or less soluble in alcohol, and perfectly insoluble in water; and they form salts of very distinct characters, with several bases, and especially with magnesia and oxide of lead.

When castor oil is distilled in a retort in the common way, there are obtained a small quantity of gas, water, and acetic acid, a colourless, crystallizable, volatile oil, ricinic and elaiodic acids, which condense with the oil in the receiver, and a solid matter, which remains in the retort. The quantities of acid, and of the volatile

oil, are nearly equal, and form nearly a third of the oil employed; the solid matter constitutes nearly the remaining two-thirds.

This is a very singular substance: it is a yellowish white colour, full of cavities, and somewhat resembling the crumb of new bread. It is insoluble in water, alcohol, æther, the volatile and fixed oils. It is dissolved by the alkalies, with which it forms a kind of soap. It is not decomposed at a high temperature, inflames when exposed to an ignited body, and burns very readily without melting. When, instead of distilling castor oil, it is treated with a solution of potash or soda, it saponifies even more readily than olive oil, and there are formed, ricinates, elaiodates, margaritates and glycorins. No other product appears; the glycorin amounts to about a fifteenth part of the oil, the margaritic acid about one thousandth, and the remainder is constituted of the other acids. These salts are very soluble in water, and act like ordinary soaps; the smallness of the quantity of margaritic acid, will account for its not being found in the product of the distillation. —*Journal of Pharmacy, February*, 1827.

Method of destroying the Empyreumatic Odour of Alcohol. By Dr. Witting.

The purification of alcohol by chloride of lime, is not expensive. The action is chemical, and analogous to that of bleaching. The empyreumatic parts are entirely destroyed.

The following is the manner in which it has been employed: two ounces of the chloride were mixed with spirit, into a uniform clear fluid, which was then put into a distillatory apparatus, with 150 measures of spirit; all the joints were then luted, and the distillation commenced. The first measure of product had a slight odour of chlorine, and was preserved apart for rectification; the rest of the produce was perfectly pure. The chloride made use of, should, when dissolved in twenty-six parts of water, bleach vegetable colour with which it may be mixed.--*Bull. Univ. E. VI.* 333.

Seidlitz Powders.

In the Journal de Pharmacie, for November, 1826, we find a critique by Mr. Planche, on the recipe for the patent seidlitz powder, as denominated in England, and recorded in the Pharmacologia of Dr. Paris. M. Planche and M. Robinet express their great surprise that the name of *seidlitz* should be given to any compound, not containing the sulphate of magnesia.

After some satirical remarks upon the patent medicines of England—which are perhaps equally applicable to all countries, the writer observes:

"All the merit of the English pretended seidlitz powder may be reduced to this: to *give to a salt purgative* or *alterative*, according to the dose in which we administer it, a more agreeable taste, by means of carbonic acid, without destroying its efficacy."

This is not all that is to be gained by the above-named composition. It can be successfully administered in cases of extreme gastric irritability; and those who are obliged to contend with the diseases which prevail during the summer season in America, believe this to be no inconsiderable recommendation. They then propose the following formula, as more worthy the title of *seidlitz.*

℞ Purified sulphate of magnesia in fine powder, ʒij.
Bicarbonate of soda ℈ij.
Mix carefully
Mark—powder No. 1.

℞ Pure tartaric acid in fine powder, gr. xl.
Mark. Powder No. 2.

To be taken in the same manner as the English seidlitz powder: that is to say, at the moment of effervescence.

The only advantage which this powder appears to us to possess over the preparation so long, and so beneficially employed in this country, is the difference in its cost.

The disadvantages are candidly stated by the French author. The principal of these, and one which appears to us sufficient to condemn it in the estimation of our apothecaries and physicians, is its liability to spontaneous decomposition when kept for any length of time, (say six months.) To remedy this evil they propose to employ the anhydrous or simply desiccated sulphate of magnesia; yet they acknowledge the only advantage derived from this form, is the *occupancy of less space.*

The anhydrous salt, he remarks, is attended during solution, with the evolution of heat sufficient to dissipate from the bicarbonate of soda a portion of its car-

bonic acid in the shape of gas. This effect having taken place, a speedy decomposition of the sulphate of magnesia follows. He admits, too, that by dissolving the contents of the two papers in quantities of water sufficiently small to be saturated, a double decomposition would take place, and sulphate of soda, and tartrite of magnesia, be formed at the expense of a portion of the sulphate of magnesia.

But as this would be obviated by employing the usual quantities of water, we rest our objection, (and we trust it is sufficiently sound to prevent this new preparation from being employed in this country,) entirely upon the fact, that the bicarbonate of soda loses part of its carbonic acid by *time*, and assumes the shape of sub-carbonate; a substance which decomposes the sulphate of magnesia, but can exert no influence over the tartrite of soda and potash, employed as the purgative ingredient of the English seidlitz powder.

A box of this elegant preparation, made after the English formula, often constitutes the only medicine chest of an American traveller; and our citizens, in their excursions to the different watering places, and rural retreats in the neighbourhood of the town, are in the constant habit of taking with them a medicine so happily calculated to remove the temporary *gastro enterite* occasioned by our hot and oppressive summers.

Our brethren of Paris may cavil at the *name*, but we must be permitted to say, we think their *alteration no improvement* of our *patent seidlitz powders*.

July 9. E.

Alkaline Digestive Lozenges. By M. D'ARCET.

(Translated from the Journal de Pharmacie, for March, 1826.)

Take of Bicarbonate of soda, dry and pure,	ʒj.	17grs.
White sugar,	℥iij.	26grs.
Volatile oil of mint,	gutta iij.	
Mucilage of gum tragacanth,	q. s.	
Make secundum artem lozenges,	$15\frac{5}{10}$	grs.

These lozenges, easily attracting moisture from the air, ought to be preserved in bottles well closed in a dry place.

They are very efficacious to restore deranged digestion: they destroy instantaneously the sourness which produces difficult digestion, and highly promote the functions of the stomach. Each lozenge weighing $15\frac{5}{10}$ grains, ought to contain nearly 0.05 of that quantity of bicarbonate of soda, and experience has proved that we can easily restore a bad digestion, by taking only one or two of the alkaline lozenges, and that it is rarely necessary to go beyond three.

We have not thought it necessary to translate the whole of the essay upon this subject. We have given enough to recommend the article, and designate the dose. We have no faith that it will suit all cases of indigestion, which is indeed a disease that assumes a variety of shapes and grades. Where acidity is the prominent symptom, it will be found an agreeable and useful remedy.

A method of detecting minute quantities of Opium, in solution. By R. Hare, M. D. &c. &c. &c.

Through the discoveries of Sertuerner, it is now well known, that opium contains an alkaline substance, called morphia, to which it owes its efficacy in promoting sleep, and relieving pain: also, that this alkali is naturally in union with an acid called meconic, which produces a striking red colour with solutions of oxyd of iron. Nevertheless, this property has not been proposed as a means of detecting opium; which has probably arisen from the circumstance that the meconate of iron does not precipitate. I have, however, contrived a method by which a quantity of opium not exceeding that contained in ten drops of laudanum may be detected in half a gallon of water.

My process is founded on the property which meconic acid has of precipitating with lead. Hence, by adding a few drops of acetate of lead to any infusion, containing any quantity of the drug in question, not more minute than the proportion above mentioned, an observable quantity of the meconate of lead falls down. The precipitation, where the quantity is small, may require from six to twelve hours, and may be facilitated by a very gentle stirring with a glass rod to detach the flocks from the sides of the recipient, which should be conical, so as to concentrate them during their descent. The meconate being thus collected at the bottom of the vessel, let about thirty drops of sulphuric acid be poured down on it by means of a glass tube. Let this be followed by as much of the red sulphate of iron. The

sulphuric acid liberates the meconic acid, and thus enables it to produce, with the iron, the appropriate colour which demonstrates the presence of that acid, and consequently of opium.

Method of preparing Denarcotised Laudanum. By R. HARE, M. D. &c. &c. &c.

AGREEABLY to the observations of the French chemists and physicians, the unpleasant effects of opium reside in a principle called narcotine, and Robiquet has informed us, that by digestion in ether, the drug may be depurated of that noxious principle. It struck me as soon as I became acquainted with the statements of Robiquet, that it was of the utmost importance to humanity to have it tested, and the result made known to my countrymen, if favourable.

Some opium, shaved by rubbing it on the face of a jack-plane, was subjected four times successively to as much ether of the specific gravity of .735 as would cover it, allowing each portion to act upon it for about twenty-four hours.

The opium was afterwards subjected to as much duly diluted alcohol as would have been adequate to convert it into laudanum, of the common kind, had it not been subjected to the ether. In the ether which had been digested on the opium, a deposition of crystalline matter soon commenced. The stopple being removed, and the mouth of the containing vessel, (in this case, a common French tincture bottle,) being

covered with blotting paper, in a few days nearly the whole of the liquid evaporated spontaneously, leaving much crystalline matter mixed with colouring matter. The former is, no doubt, the principle distinguished by Robiquet, since called narcotine.

The digestion of the opium with the ether, is conveniently performed in the papins digesters, which are sold at some of the hardware stores in this city.

The ether should be kept near the temperature of ebullition.

The first use made of the denarcotised laudanum, was by way of an enema of thirty drops, in the case of a child tortured by ascarides, to whom it gave early relief, inducing a comfortable, and apparently natural sleep, and causing subsequently no unpleasant symptoms. The second instance was a case of severe head-ache, which was relieved in about thirty minutes, by ten drops taken into the stomach. A refreshing slumber succeeded, which was not followed by any of the distressing sensations to which the patient has always been subjected, after taking common laudanum.

Versuch einer Monographie der China von Heinrich von Bergen, Droguerie-Makler—mit acht kupfertafeln in folio und zehn tabellen. Hamburg, 1826.

An elaborate treatise upon cinchona, under the above title, has been lately received in this country, of which we purpose hereafter to give an account.

At present we shall content ourselves with presenting a series of experiments upon various kinds of cinchona, exhibiting a view of the effects of different re-agents, and the quantity of cinchonia and quinia which they yielded—with descriptions of the external appearance, and reference to very accurately and beautifully coloured engravings of the same.

The letters in the following descriptions, refer throughout to the same circumstances, and are substituted for the convenience of the printer, in place of the tabular heads under which they are arranged in the original work, viz:

a, Importation into Hamburg, *b*, form and external appearance, *c*, colour of the decoction, *d*, deposite in the decoction, *e*, colour of the cold infusion, *f*, trial with a solution of tartarised antimony, *g*, with tincture of ichthyocolla, *h*, with tincture of galls, *i*, with oxalate of potash, *k*, with sulphate of iron, *l*, with muriate of iron, *m*, denotes the quantity of pure cinchonia, and *n*, that of sulphate of quinia yielded by a pound of bark.

In these experiments, the decoction was made by boiling one ounce of bruised bark in a pint of water, with a gentle heat, to eight ounces; the decoction was cooled, and then poured off, and the sediment noted after 24 hours standing.

The infusion was made by frequently shaking, during 24 hours, 1 ounce of powdered bark, with 8 ounces of cold water, then filtering by a compression pump, and subjecting to the various tests.

The solution of tartarised antimony was made by dissolving 96 grs. in 4 oz. distilled water.

The tincture of ichthyocolla—a half drachm to 4 oz. diluted alcohol—to be used warm.

The tincture of galls—1 oz. bruised galls to 6 oz. alcohol.

The solution of oxalate of potash—half ounce to 4 oz. distilled water.

The solution of sulphate of iron—1 oz. to 4 oz. of distilled water.

The solution of muriate of iron was a saturated solution of iron, in concentrated muriatic acid diluted with two parts of water.

In making the experiments, 12 drops of the tincture of galls and 15 drops of each of the others, were added to two drachms of the cold infusion of bark.

RED BARK.

No. 1, (Plate 1, fig. 1 & 4) *a*, 1823, from Cadiz, *b*, fine quill, fresh appearance, *c*, reddish ochre-yellow, *d*, not much to signify, somewhat darker than No. 4, *e*, somewhat deeper than No. 3, *f*, dirty orange coloured, copious precipitate, *g*, no alteration, *h*, yellowish precipitate, *i*, dirty orange coloured precipitate, *k*, dirty yellow coloured cloudiness, *l*, greenish yellow, transparent colour, *m*, 70 grs., *n*, 77 grs.

No. 2, (Plate 1, fig. 5, 8, & 9,) *a* from the same chest as the former, *b*, thick and broad flat stick, brownish red, fresh looking, *c*, golden sulphur colour, *d*, very remarkable, golden sulphur colour, *e*, somewhat deeper than No. 3, *f*, reddish white copious precipitate, *g*, as in No. 1, *h*, reddish deposite, *i*, peach blos-

som coloured deposite, *k*, ash coloured cloudiness, *l*, light green colour, *m*, 90 grs. *n*, 15 grs.

No. 3, (Plate 1, fig. 2 & 3,) *a*, 1819, from Cadiz, *b*, middling sized quills, judging from the faded appearance, perhaps more than twenty years older than the former, *c*, reddish yellow-ochre colour, *d*, somewhat less and lighter coloured than No. 4, *e*, somewhat darker than No. 4, *f*, whitish yellow coloured cloudiness, *g*, as in No. 1, *h*, white deposite, *i*, slight cloudiness, *k*, no change, *l*, yellower than No. 4, *m*, 97 grs. *n*, 31 grs.

No. 4, *a*, from the same case with the former, *b*, a broad, flat, yet not quite so thick a stick as No. 2, somewhat more solid and heavy, but as much faded as the former, *c*, between No. 2, and 3, yet nearer No. 3, *d*, small, dirty, reddish yellow, *e*, somewhat darker than No. 5, *f*, as in No. 3, *g*, as in No. 1, *h*, as in No. 3, *i*, slight cloudiness, *k*, as in No. 3, *l*, pale green colour, *m*, 80 grs, *n*, 30 grs.

No. 5, (Plate 1, fig. 6,) *a*, 1815, from London; this sort is no longer brought here, *b*, middle sized quills, of a streaked appearance, appears hard and old, *c*, dirty dark ochre, *d*, slight brown, *e*, of a light gray colour, *f*, light yellow copious deposite, *g*, as in No. 1, *h*, as in No. 3, *i*, whitish cloudiness, *k*, colour somewhat darkened, *l*, light bottle green colour, *m*, 150 grs. *n*, 11 grs.

No. 6, (Plate 1, fig. 7,) *a*, from the same case with the former, *b*, middling sized quills, thicker, but not heavier in proportion than the former, *c*, *d*, *e*, as in

No. 5, *f*, light yellow, very copious precipitate, *g*, as in No. 1, *h*, milk-white deposite, *i*, *k*, *l*, as in No. 5, *m*, 184 grs. *n*, 9 grs.

No. 7, *b*, thick, flat stick, but chiefly quills of different thickness and fragments. This is an old and faded sort which has been at least 80 years in Hamburg; *c*, cinnamon colour, *d*, very little, colour of kermes, *e*, pretty much of a wine yellow, *f*, *g*, *h*, *i*, *k*, no change, *l*, grass green colour, *m*, 20 grs, *n*, 7 grs.

HUANUCO BARK.

No. 1, *a* 1814, from Cadiz; a parcel of ten cases, *b*, fine dust sifted out, *c*, dirty yellow-brown, *d*, slight blackish-brown, *e*, somewhat reddish, *f*, *g*, no change, *h*, slight flaky cloudiness, *i*, *k*, *l*, somewhat clouded, *m*, 74 grs., *n*, *o*.

No. 2, *a*, as No. 1, *b*, small fragments, *c*, same as the royal bark, yet not so strong, *d*, small, dark ochre colour, *e*, faint yellowish, *f*, very little clouded, *g*, no change, *h*, somewhat whiter flaky cloudiness than No. 1, *i*, scarcely clouded, *k*, the whole of a pale green, *l*, light yellow-green, *m*, 210 grs. *n*, *o*.

No. 3, *a*, as No. 1, *b*, heavy flat stick, and larger fragments, *c*, *d*, *e*, *h*, *i*, *l*, as No. 2, *f*, yellowish white cloudiness, *g*, *k*, as No. 1, *m*, 187 grs., *n*, *o*.

No. 4, (Plate 2, fig. 1 & 2,) *a*, as No. 1, *b*, heavy fine quill, *c*, *d*, *e*, *f*, *h*, *i*, *k*, *l*, as No. 2, *g*, as No. 1, *m*, 190 grs. *n*, *o*.

No. 5, (Plate 2, fig. 3 to 11,) *a*, as No. 1, *b*, heavy

middle sized quills, *c*, *d*, *e*, *f*, *h*, *i*, *k*, as No. 2, *g*, as No. 1, *l*, somewhat darker, *m*, 210 grs. *n*, *o*.

No. 6, (Plate 2, fig. 12,) *a*, as No. 1, *b*, heavy thick quills, *c*, *d*, *h*, as No. 2, *e*, somewhat darker, *f*, as No. 3, *g*, *i*, *k*, as No. 1, *l*, as No. 5, *m*, 200 grs., *n*, *o*.

No. 7, *a*, 1807 from Lima, *b*, fine and middle sized quills, about 1-3 c. of the latter, not quite so heavy as the former parcel, nevertheless to judge from the faded appearance, older, *c*, *e*, *f*, *i*, as No. 2, *d*, lighter than the former, *g*, as No. 1, *h*, slight white flaky cloudiness, *k*, very little darker, *l*, as No. 5, *m*, $106\frac{2}{3}$ grs. *n*, *o*.

No. 8, *a*, 1825, from Petersburg—sent there at an earlier period from Hamburg, *b*, middle sized quills, mixed with single thick ones of moderate weight, *c*, *e*, *f*, *i*, *k*, as No. 2, *d*, somewhat darker than No. 2, *g*, as No. 1, *h*, *k*, as No. 7, *m*, 100 grs., *n*, *o*.

No. 9, *a*, 1825, from South America, by the way of London, about 10 seroons, *b*, middling fine and middle sized sticks, *c*, a little darker than No. 2, *d*, as No. 8, *e*, *i*, *k*, as No. 2, *f*, as No. 3, *g*, as No. 1, *h*, as No. 7, *l*, as No. 5, *m*, 146 grs. *n*, *o*.

No. 10, *a*, 1821, from Cadiz, *b*, very thick quills of moderate weight, more brown than spotted, externally, such quills are seldom met with; *c*, *d*, as No. 8, *e*, *h*, *i*, *k*, as No. 2, *f*, as No. 3, *g*, as No. 1, *l*, as No. 5, *m*, 190 grs, *n*, *o*.

(TO BE CONTINUED.)

BIBLIOGRAPHICAL.

The DRUGGISTS' MANUAL, *being a Price Current of Drugs, Medicines, &c. &c.*

IN presenting to our readers a short analysis of this little work, we are desirous of subserving the interests of the profession generally, as well as those of the College of Pharmacy.

The first division consists of a catalogue of drugs and medicines, accompanied with columns, for the purpose of forming a price current. From the rapid and constant changes, and additions to the materia medica, such a catalogue had become a desideratum; and so far as we are capable of judging, the one presented appears singularly full and complete.

This "first and principal list of names," is made out in Latin, and "according to the modern scientific nomenclature."

Notwithstanding the difficulties which occasionally occur, from changing long established names, the simplicity, and practical usefulness of the chemical nomenclature, are so obvious, and have been so long acknowledged, that there needs no elaborate argument, to make its superiority over that of the "olden time" evident, to any one engaged in the pursuit of pharmacy or medicine.

In the language of the compilers of the Manual, "It familiarizes the druggist to names daily coming into greater use; it compels the apprentice to make himself acquainted with the first elements of chemistry, and with the almost universal language of prescriptions."

Although the main pillars on which this beautiful system rests, have remained unmoved amid the numerous discoveries of modern times; yet some of its important parts have been ingeniously assailed by some, and as zealously defended by others, of the first philosophers of the age. While, therefore, these savans, whose opinions are received almost as oracular, differ in their conclusions, we would recommend caution to be exercised in the adoption of new theories, which may be overturned by subsequent experiments, and which by introducing several names into the materia medica for the same article, are productive of evils of no trifling importance.

"A catalogue of English, and one of the old Latin names and synonyms, numbered to correspond with the numbers affixed to the price current, and forming an easy index of reference and translation, then follows. After these come catalogues of drugs in the French, Spanish, and German Languages. Although these are far from being complete, and are, from the nature of the work, mere abridgments, yet it is believed they are correct as far as they go, and that they will be found highly useful to the trade."

The remainder of the work consists of twenty-one tables, all of which will be found of greater or lesser utility to the apothecary, and many of which are only to be met with in works of science, to which every person cannot have access.

"In selecting the various tables which conclude the work, the compilers have been guided by a desire to make scientific accuracy the habit and characteristic of the trade. That all the various kinds of solutions,

acids, æthers, and alcohol, should be sold at prices proportionate to their specific gravity, and used of an uniform and ascertained strength; that the druggist should be familiar with the relation between troy weights, by which medicines are compounded, and the avoirdupois weight, by which they are sold; that the various tests of impurities in medicines, should be of ready access, and constant reference; that the doses and virtues of the medicines which he sells should be known to him, are positions which none will dispute."

The series of tables referred to, is well calculated to promote these desirable ends. The first seven are designed for the ready conversion of the different weights and measures into each other; and that of specific gravities, which follows, must be frequently consulted, as it is intimately connected with all of the scientific, and many of the commercial transactions of the apothecary.

The remainder of the volume consists of a variety of useful matter, condensed into the same forms, but which it is unnecesary to notice in detail. We cannot, however, pass over in silence, the tables of incompatibles, and chemical equivalents, both of which are so important to the pharmaceutist in his scientific pursuits. The latter particularly arrests the attention, and by committing it to memory, as suggested by the compilers, the student will obtain the master-key to chemistry."

The Druggist's Manual contains besides a well written Introduction, which glances at the early history of pharmacy, exposes the necessity of pharmaceutical

institutions, and the causes which led to the establishment of the school in this city.

The charter, constitution, and by-laws, are also introduced; the whole forming a neat octavo volume, printed upon post paper, and in its typographical execution deserving praise.

The committee by which the task has been so well performed that was assigned to it, is entitled to the thanks of the profession; and while we trust that the first edition will soon be disposed of, we look upon it as the harbinger of more important works, which shall at once display our improvement, and exert a decided influence over the prosperity of American pharmacy.

July 3, 1827.